

ACETALDEHYDE DIETHYL ACETAL

Safety Data Sheet

Supersedes: 12/12/2023

Revision: 1.3

Revision date: 13/08/2024

SECTION 1: Identification

1.1 Identification

Product form	: Substance
Substance name	: Acetaldehyde Diethyl Acetal
CAS No	: 105-57-7
EC/ List No	: 203-310-6
Formula	: C ₆ H ₁₄ O ₂
Molecular weight	: 118.17 g/mol
Synonyms	: 1,1-Diethoxyethane

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	: Laboratory chemicals, Manufacture of substances
Relevant identified uses	: Industrial uses
Uses advised against:	: Not known

1.3 Details of the supplier of the safety data sheet

Godavari Biorefineries Ltd.
45/47, Somaiya bhavan,
Mahatma Gandhi Road,
Fort, Mumbai -400001, INDIA.
T 0091 22 22048272
Email: alka@somaiya.com
www.somaiya.com

1.4 Emergency telephone Number

Emergency number	: 0091 2423 279308 0091 22 22048272 (Monday – Friday - 09.30 hrs to 18.00 hrs)
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SECTION 2: Hazard(s) identification

GHS classification

2.1 Classification of the substance or mixture

Flammable liquids (Category 2),	H225
Skin corrosion (Sub-category 1B),	H314
Serious eye damage (Category 1),	H318

2.2: GHS labeling

Hazard pictograms (GHS)



GHS-02



GHS-05

Signal word (GHS) : Danger

Hazard statements (GHS)

H225	: Highly flammable liquid and vapour.
H314	: Causes severe skin burns and eye damage.

Precautionary statements (GHS)

P210	: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	: Keep container tightly closed.
P240	: Ground and bond container and receiving equipment.

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- P280 : Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 : IF exposed or concerned: Get medical advice/attention.
- Supplemental Hazard information:** : None

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher. May form explosive peroxides.

2.4 Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name	Product Identifier CAS No. EC No.	Concentration %	GHS Classification
1,1-diethoxyethane	105-57-7 203-310-6	Minimum 97.00	Flam. Liq. 2; Skin Corr. 1B; Eye Dam. 1; H225, H314, H318

Full text of hazard classes and H-statements: see section 16

3.2 Mixture

Not applicable.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General information** : Consult a physician. Show this safety data sheet to the doctor in attendance.
- Inhalation : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin contact : Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
- Eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Dry powder, Dry sand
- Unsuitable extinguishing media : Do NOT use water jet.

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5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour.

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

Firefighting instructions : Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

5.4 Additional information

Be Use water spray to cool unopened containers

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For personal protection see section 8

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling : Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. For precautions see section 2.2

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Heat-, light-, and moisture-sensitive. Dry residue is explosive.

7.3 Specific end uses

part from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.1.1 Occupational exposure limits:

Components with workplace control parameters. No exposure limits noted for ingredient(s).

8.2 Exposure controls

8.2.1 Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2 Personal protective equipment:

Personal protective equipment :



Protective goggles.



Gloves.



Protective clothing.



Face shield.



Gas mask with filter

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Eye/face protection	:	Lightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)
Skin protection: Hand protection	:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body protection:	:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace
Respiratory protection	:	Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Environmental exposure c ontrols	:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear Colourless Liquid
Colour	:	Colourless
Odour	:	Characteristic/pleasant
pH	:	7.1 at 20 °C
Melting point	:	< -22 °C - OECD Test Guideline 102
Freezing point	:	No Data Available
Initial boiling point/boiling range	:	102 °C
Flash Point	:	< 20 °C – closed cup
Relative evaporation rate	:	No Data Available
Relative density	:	0.831 g/cm ³ at 25 °C
Relative vapour density at 20°C	:	No Data Available
Specific gravity/ density	:	No Data Available
Molecular mass	:	118.17 g/mol
Flammability(Solid, Gas)	:	No Data Available
Upper/lower flammability or Explosive limit	:	Upper explosion limit: 10.4 %(V)
Solubility	:	1.046 g/l at 20 °C - OECD Test Guideline 105
Vapor pressure	:	36.37 hPa at 20 °C - OECD Test Guideline 104
Vapour density	:	4.08 - (Air = 1.0)
Evaporation Rate	:	No Data Available
Partition coefficient n-octanol / water	:	Log Pow: < 1 at 20 °C - OECD Test Guideline 117 - Bioaccumulation is not expected.
Auto-ignition temperature	:	315 °C at 997,9 - 1.000,1 hPa
Decomposition temperature	:	No Data Available
Viscosity	:	No Data Available

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Explosive Limits : No Data Available
Oxidizing properties : No Data Available

9.2 Other information

No Data Available.

SECTION 10: Stability and reactivity

10.1 Reactivity : No data available
10.2 Chemical Stability : Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions : No Data Available
10.4 Conditions to avoid : Avoid moisture. Heat Light. Heat, flames and sparks.
10.5 Incompatible materials : Strong oxidizing agents, Strong reducing agents, Strong bases
:
10.6 Hazardous decomposition products : Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity LD50 : LD50 Oral - Rat - 4600 mg/kg
Remarks: (RTECS)
Skin corrosion/irritation : Skin - In vitro study Result: Corrosive Method: OECD Test Guideline 431
Eye irritation : Eyes - Bovine cornea, Result: Causes serious eye damage.
(OECD Test Guideline 437)
Eyes - In vitro study, Result: positive
(OECD Test Guideline 492)
Respiratory or skin sensitization : In vitro study, Result: negative
(OECD Test Guideline 442D)
Germ cell mutagenicity : Ames test, Escherichia coli/Salmonella typhimurium
Result: negative
Carcinogenicity : IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity : No data available
Specific target organ toxicity (single exposure) : No data available
Specific target organ toxicity (repeated exposure) : No data available
Aspiration hazard : No data available
Additional information : RTECS: AB2800000
Central nervous system depression, Gastrointestinal disturbance
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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SECTION 12: Ecological information

12.1 Toxicity

Toxicity	:	No data available
Toxicity to daphnia and other aquatic invertebrates	:	static test EC50 - Daphnia magna (Water flea) - > 120 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	:	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 94,4 mg/l - 72 h. (OECD Test Guideline 201) static test EC10 - Pseudokirchneriella subcapitata (green algae) - > 94,4 mg/l - 72 h, (OECD Test Guideline 201)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 44 - 50 % - Inherently biodegradable. (OECD Test Guideline 310)

12.3 Bio accumulative potential

No data available

12.4 Mobility in soil

No Data Available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Harmful to aquatic life.

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal : Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Packaging: : Dispose of as unused product.

SECTION 14: Transport Information

UN number	:	ADR/RID: 1088	IMDG: 1088	IATA: 1088
UN proper shipping name	:	ADR/RID: ACETAL	IMDG: ACETAL	IATA: Acetal
Transport hazard class(es)	:	ADR/RID: 3	IMDG: 3	IATA: 3
Packaging group	:	ADR/RID: II	IMDG: II	IATA: II
Environmental hazards	:	ADR/RID: no	IMDG Marine pollutant: no	IATA: no
Special precautions for user	:	No data available.		

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SECTION 15: Regulatory information

15.1 National regulations

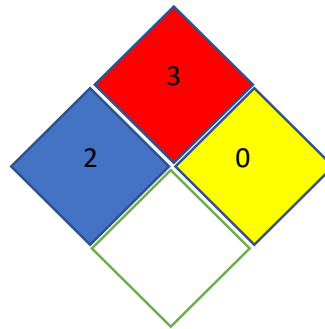
Country	National Inventories	Listing
AUSTRALIA	AICS	Listed
CANADA	DSL	Listed
CHINA	IECSC	Listed
EUROPE	EC	Listed
JAPAN	ENCS	Listed
NEWZEALAND	NZIoC	Listed
PHILIPPINES	PICCS	Listed
SOUTH KOREA	KECI	Listed
TAIWAN	TCSI	Listed
USA	TSCA	Listed

SECTION 16: Other information

16.1 Hazard Statement

- H225 : Highly flammable liquid and vapour.
- H314 : Causes severe skin burns and eye damage.
- H318 : Causes serious eye damage.

16.2 NFPA Rating



16.3 Abbreviations and acronyms

- : PBT =Persistent Bioaccumulative and Toxic
- vPvB= Very Persistent and Very Bioaccumulative
- SCBA= Self Contained Breathing Apparatus
- NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit
- OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit
- OELTWA= Occupational Exposure Limit Time Weighted Averages
- IDLH= Immediately Dangerous to Life or Health
- UEL= Upper Explosive Limit

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LEL= Lower Explosive Limit

RTECS= Registry of Toxic Effects of Chemical Substances

NTP=National Toxicology Programm

IARC= International Agency for Research on Cancer

EPA=Environmental Protection Agency

TSCA= Toxic Substances Control Act

NFPA= National Fire Protection Association

CSR=Chemical Safety Report

BCF = Bio Concentration Factor

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

TLV = Threshold Limit Value

ACGIH = American Conference of Governmental Industrial Hygienist

REACH = Registration, Evaluation .Authorisation and Restriction of Chemicals

CLP = Classification, Labelling and Packaging

LD / LC = Lethal Doses / Lethal Concentration

GHS = Globally Harmonised System

ADR = Accord europeen relative au transport international de marchandises

IMDG-Code = International Maritime Code for Dangerous Goods

EmS = Emergency measures on Sea

ICAO = International Civil Aviation Organization

IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.

16.4 Further information:

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